MICROCOPY RESOLUTION TEST CHART
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LEVEL II

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DRAFT FINAL REPORT

AIR MOVEMENT

AMPS

PLANNING SYSTEM

VOLUME I - EXECUTIVE SUMMARY

DDC

APR 6 1979

A

UNITED STATES ARMY
LOGISTICS CENTER
FORT LEE, VIRGINIA 23801

NOVEMBER 1978

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UNITED STATES ARMY
LOGISTICS CENTER
FORT LEE, VIRGINIA 23801

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(AMPS)

VOLUME I

EXECUTIVE SUMMARY

DRAFT

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DRAFT STUDY

(9) Draft
final rept.

FORWARD

This is the Draft Executive Summary Report for the Air Movement Planning System (AMPS). The study report is published in 3 volumes: The Executive Summary, The Users Guide, and The System/Programmers Guide.

The work reported herein was accomplished by the US Army Logistics Center, Fort Lee, Virginia. Functional assistance was provided by the US Army Transportation School, Fort Eustis, Virginia.

Users of this volume are encouraged to recommend changes and submit comments for its improvement. Comments should be keyed to the specific page, paragraph, and line of the text in which the change is recommended. Reasons will be provided for each comment to insure understanding and complete evaluation. Comments should be prepared using DA Form 2028 (Recommended Changes to Publications) and forwarded directly to the Commander, US Army Logistics Center, ATTN: ATCL-OS, Fort Lee, Virginia 23801.

This paper does not purport to represent any official position of the Department of the Army.

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AIR MOVEMENT PLANNING SYSTEM

EXECUTIVE SUMMARY

CHAPTER 1

GENERAL SYSTEM INFORMATION

1-1. TITLE. Air Movement Planning System (AMPS).

1-2. SCOPE.

a. The Air Movement Planning System is a computerized method of quickly and effectively planning cargo loads for C-130, C-141, and C-5 aircraft. It is primarily intended for use in Army unit moves, but its inherent flexibility makes it adaptable for movement of most types of cargo under various conditions.

b. The inherent model flexibility provides options that give AMPS a collateral capability in staff and major command planning of movements incident to contingency operations, in support of the strategic and tactical planning at all levels.

1-3. TERMS EXPLAINED. Unique terms are not used in this document. Unique terms used in Volumes II and III are defined in those documents.

1-4. OBJECTIVES.

a. Provide to Army units with an air movement mission an automated method of preparing effective load plans for USAF aircraft that will provide a timely response within the dynamic environment of joint airlift operations. The system must be fast, accurate, make efficient use of aircraft, incorporate commander's priorities, maintain unit integrity, link trailers and/or crews with their respective vehicles and link units with specific aircraft.

b. Present a standard format outlining the results of requirements computations. This is intended to facilitate and expedite Army-Air Force coordination in planning and executing joint air movements.

1-5. OPERATION.

    a. AMPS is operational at the US Army Logistics Center via terminal
operation to a CDC 6400/6500 data processing system at Data Processing
Field Office (DPFO) Fort Leavenworth, Kansas.

    b. AMPS has been tested on IBM-360 computers at Fort Bragg, North
Carolina, Fort Hood, Texas, and Fort Lee, Virginia.

    c. A sample computer run has been included as Appendix A of this
document.

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CHAPTER 2

SYSTEM DESCRIPTION

2-1. NARRATIVE. The Air Movement Planning System (AMPS) is a system of computer programs that provides a method for rapidly and efficiently planning and manifesting loads of Army unit equipment and personnel for transport by C-130, C-141, and C-5 aircraft. The programs validate and process input data prepared and maintained by the Army unit describing the cargo to be moved in detail adequate for load planning. The Load Program is controlled by the characteristics of the aircraft being loaded and by parameters and options input by the unit, or by the commander of the force being moved.

2-2. INPUT. AMPS is designed to utilize the following types of input.

    a. Passenger and Load Data Prepared by the Army Unit.

    (1) Passengers are listed either by number of passengers or by passenger name.

    (2) Cargo dimensions and weight are described as the items are to be offered to the carrier.

    b. Options, Parameters, and Unit Sequence. The Major Army Command headquarters which is responsible for direction of the move prepares the input cards to select the options under which the programs are to be executed and the sequence in which the units are to be loaded.

    c. Aircraft. The Major Army Command prepares cards describing the types and quantities of aircraft which are to be loaded, in accordance with information provided by the Military Airlift Command (MAC).

    d. Helicopter File. The AMPS project manager at each installation will maintain a file (HELI-FILE) of helicopter type loads for input to AMPS.

2-3. PROGRAMS. AMPS includes the following programs:

    a. AMPS-VALIDATE PROGRAM (AMPS-VAL). This program edits, sorts, and validates all input data created by the user in accordance with paragraph 2-2 above. The outputs include error diagnostics and a printout of the validated data. AMPS-VAL may be run as a unique program, or it may be run in conjunction with AMPS-LOAD. AMPS-VAL must be the first program executed.

2-1

b. __AMPS-LOAD PROGRAM (AMPS-LOAD)__. Utilizing cargo, passenger, and
aircraft input in accordance with paragraph 2-2, this program plans
aircraft loads following the logical principles used by Air Force MAC
loadmasters. Loads are designed to efficiently use the cube and weight
capabilities of the aircraft being loaded and, subject to efficiency,
follow priorities stated by the units. Cargo items are placed so that
the aircraft is within balance limits for safe flight. Passengers are
added, within weight limits, when there is adequate space for reasonably
comfortable seating. Related cargo items (e.g., truck and trailer) are
loaded together, and passengers identified as equipment operators are
placed in the same aircraft as the equipment. Output from this program
includes a load diagram, cargo manifest, and passenger manifest for each
load, and a statistical recapitulation for each unit. A listing of
either cargo and passengers not loaded, or aircraft not used, or both
are included at the end of the processing run.

c. __AMPS HELICOPTER STANDARD LOAD FILE MAINTENANCE PROGRAM (HELI-__
__MAINT)__. This is a utility program used to update the Helicopter Standard
Load File (HELI-FILE) which is used by AMPS-LOAD to control the loading
of Army rotary-wing aircraft into USAF transport aircraft.

2-4. DOCUMENTS. In addition to this summary, AMPS includes the following
documentation:

a. Vol II--Functional System Users Guide.

b. Vol III--System/Programmers Guide.

2-5. FORMS.

a. __AMPS-1__.

(1) Card type "1," Options; selected by the user. (See Figure 2-1.)

(2) Card type "2," Title of Computer Run.

(3) Card type "3," Unit Sequence and Unit Combinations; selected by
the user.

(4) Card type "4," Aircraft Parameters.

b. __AMPS-2__. Card type "5." Format for Aircraft Data. (See Figure
2-2.)

c. __AMPS-3__. Card type "6," Format for Cargo Data. (See Figure 2-
3.)

2-2

d. <u>AMPS-4</u>. Card type "6," Format for Passenger Data. (See Figure 2-4.)

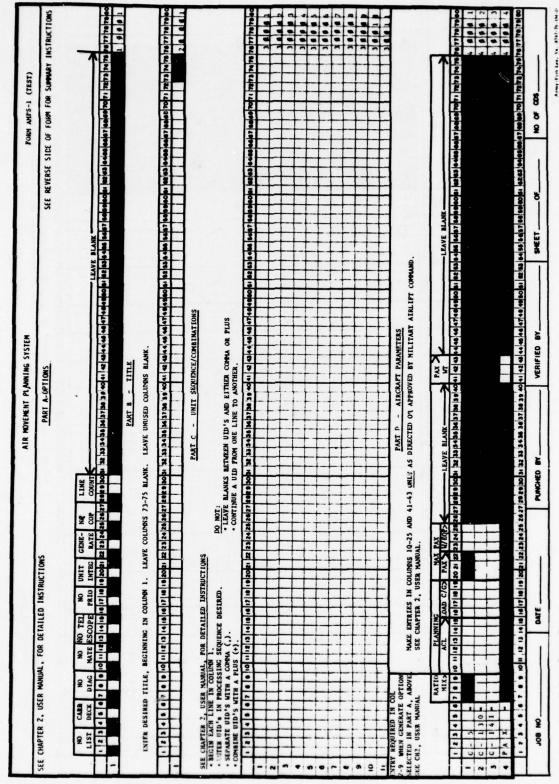2-6. SYSTEM OVERVIEW CHART. See Figure 2-5.
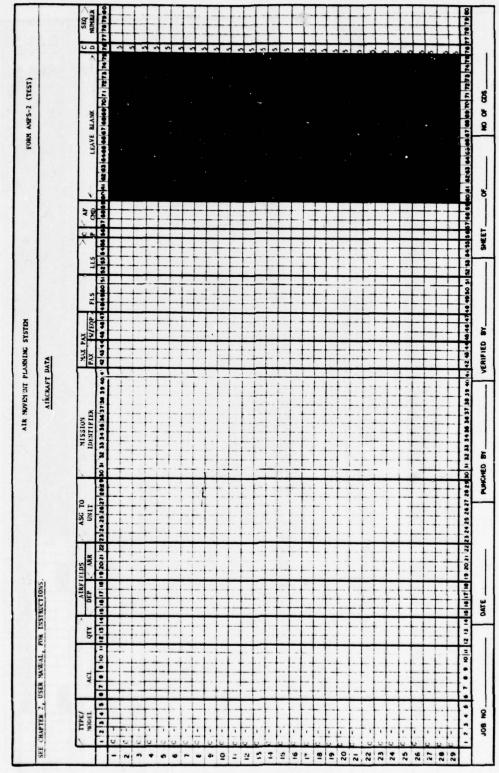
AIR MOVEMENT PLANNING SYSTEM

FORM AMPS-1 (TEST)

SEE CHAPTER 2, USER MANUAL, FOR DETAILED INSTRUCTIONS

SEE REVERSE SIDE OF FORM FOR SUMMARY INSTRUCTIONS

PART A—OPTIONS

NO LIST	CARD DECK	NO DIAG	NO MATE	NO TEL ESCOPE	NO PRIO	UNIT INTEG	GENE- RATE	N¢ COP	LINE COUNT	LEAVE BLANK

PART B – TITLE

ENTER DESIRED TITLE, BEGINNING IN COLUMN 1. LEAVE COLUMNS 73-75 BLANK. LEAVE UNUSED COLUMNS BLANK.

PART C – UNIT SEQUENCE/COMBINATIONS

SEE CHAPTER 2, USER MANUAL, FOR DETAILED INSTRUCTIONS
• BEGIN EACH LINE IN COLUMN 1.
• ENTER UID'S IN PROCESSING SEQUENCE DESIRED.
• SEPARATE UID'S WITH A COMMA (,).
• COMBINE UID'S WITH A PLUS (+).

DO NOT:
• LEAVE BLANKS BETWEEN UID'S AND EITHER COMMA OR PLUS
• CONTINUE A UID FROM ONE LINE TO ANOTHER.

PART D – AIRCRAFT PARAMETERS

MAKE ENTRIES IN COLUMNS 10-25 AND 41-43 ONLY AS DIRECTED OR APPROVED BY MILITARY AIRLIFT COMMAND.
SEE CHAPTER 2, USER MANUAL.

	PLANNING		MAX PAX		LEAVE BLANK	PAX
RATIO MIX>	ACL	OAD C/G	PAX	U/EQP		VT
1	C - 5					
2	C - 130					
3	C - 141					
4	PAX					

ENTRY REQUIRED IN COL 7-9 WHEN GENERATE OPTION SELECTED IN PART A., ABOVE. SEE CH2, USER MANUAL

JOB NO	DATE	PUNCHED BY	VERIFIED BY	SHEET ___ OF ___	NO OF CDS

Army Ft. Lee, Va. 4787-76 10-40

Fig 2-1. Control Data Input Format.

2-5

AIR MOVEMENT PLANNING SYSTEM

FORM AMPS-2 (TEST)

SEE CHAPTER 2, USER MANUAL, FOR INSTRUCTIONS.

AIRCRAFT DATA

TYPE/MODEL	ACL	QTY	AIRFIELDS DEP	AIRFIELDS ARR	ASG TO UNIT	MISSION IDENTIFIER	MAX PAX PAX	MAX PAX W/EQP	FLS	LLS	C P	AF CMD	/	LEAVE BLANK	C D	SEQ NUMBER

Fig 2-2. Aircraft Data Input Format.

JOB NO. _____   DATE _____   PUNCHED BY _____   VERIFIED BY _____   SHEET _____ OF _____   NO OF CDS _____

2-6

AIR MOVEMENT PLANNING SYSTEM

FORM AMPS-3 (TEST)

SEE CHAPTER 2, USER MANUAL, FOR PREPARATION INSTRUCTIONS.   CARGO DATA

UIC/TLLN	LEAVE BLANK	DESCRIPTION	LEAVE BLANK	TLN O'LAP	CCS CODE	LTH	WTH	HGT	WEIGHT	C/G	PRI	EQP LTN	QTY	S C P D	LEAVE BLANK

JOB NO	PUNCHED BY	VERIFIED BY	SHEET OF	NO OF CDS
DATE				

Fig 2-3. Cargo Data Input Format.

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Fig 2-4. Passenger Data Input Format.

FIGURE 2-5 SYSTEM OVERVIEW CHART

2-9

APPENDIX A

SAMPLE COMPUTER PROGRAM RUN

A computer run of the AMPS System is presented in this appendix. This output listing represents the results of a typical run of the documented operational version of the model.

FRE DIAGNOSTICS

SAMPLE RUN FOR EXECUTIVE SUMMARY

DIAGNOSTICS OF INPUT

CA105 ....

C3105   GENERAL CARGO   0CCEU1761C80A50H7980088001   CU0X6

AIR MOVEMENT PLANNING SYSTEM   U.S. ARMY LOGISTICS CENTER, FORT LEE, VIRGINIA   DATE 12/16/75   TIME 22:14:07   3

......   SAMPLE RUN FOR EXECUTIVE SUMMARY

......

CATGR ....
CATGG   GENERAL CARGO   CCCEU17LIC8C82UU79UUU86U1   CU026

SAMPLE RUN FOR EXECUTIVE SUMMARY

AIRCRAFT DIAGNOSTICS

```
AIRCRAFT TO LOAD 0100001PACC-141CAT65   BLK  SHEEP 1  KPDEFCRK5000000000C400000CC000 COC1
AIRCRAFT TO LOAD 0100002PACC-110CAT65   BLK  SHEEP 2  KPD06KGRK1200000000180000CC000 COC4
AIRCRAFT TO LOAD 0100003PACC-5   CAT66  BHT  SHEEP 2  KPDIRKGRK1100000000C000CCC0CC2 COC3
AIRCRAFT TO LOAD 0100004PACC-130CAT66  BHT  SHEEP 1  KPDPACRK1300000000000000000002 COC2
```

AIR MOVEMENT PLANNING SYSTEM   U.S. ARMY LOGISTICS CENTER, FORT LEE, VIRGINIA   DATE 12/05/76   TIME 22:14:11   5

● ● ● ● ● ● ●   ● ● ● ● ● ● ●

         SAMPLE RUN FOR EXECUTIVE SUMMARY

      PRIORITY DATA

      U I D   OUTSIZE CARGO WEIGHT   PRIORITY   COMBINED LID
      CATG5   1
      CATG6   2

AIR MOVEMENT PLANNING SYSTEM   U.S. ARMY LOGISTICS CENTER, FORT LEE, VIRGINIA   DATE 12/05/76   TIME 22:14:11   6

* * * * * * *   * * * * * * * *

          SAMPLE RUN FOR EXECUTIVE SUMMARY

          OPTIONS IN EFFECT

RE   CARD   NO   NO   NO T   NO   UNIT   GENE   NO-   LINE
LIST DECK   DIAG RATE SCOPE   PRIN INTEG   RATE   COP   COUNT

                                    X   1   55

* * * * * *   * * * * * *

SAMPLE RUN FOR EXECUTIVE SUMMARY

AIRCRAFT DATA

```
1   C0000IMACC-141CAT5   BLK SHEEP 1   KPIBKGRKU5UU0CCCOU6UUU0UUU0UU1C
2   C0002MACC-13CCAT6    WHT SHEEP 1   KPIUBKCRKU3UUUUCUU0UUUUUUUUUU02B
3   C0003MACC-5  CPTC6    WHT SHEEP 2   APFBKGRK11U00UCCU0UUU0U0U00CC2U
4   C0005MMACC-13CCAT5    BLK SHEEP 2   KPCBKCRKC3UUU0UCCCU18UUUU0U0U1B
```

******   SAMPLE RUN FOR EXECUTIVE SUMMARY
          PARAMETERS IN EFFECT

SINGLE ITEM LIMITS

	LEN	WTH	HTH	WEIGHT	ACL	PCG	MIX
C5	554	228	156	200000	110000	1275	
C141	800	122	108	50000	50000	900	
C130	500	122	108	30000	30000	530	
FILL	200	115	80	7500	*****	****	****

DEFAULT PASSENGER WEIGHT = 240
SCHEMATIC PRINT WIDTH   = 18

* * * * * *   * * * * * * *

SAMPLE RUN FOR EXECUTIVE SUMMARY

CARGO DATA

SEQ-NO	UIC	RANK	NOMENCLATURE	SSN / OVERLAP	CCC CO	**** ITEM DIMENSIONS LTH WTH HTH WEIGHT	**** CG	ITEM PRI	EGE - IBR	OUT SIZ	SP SH HD RQ	PLANE NEEDED	PAX
1	CATC5		GENERAL CARGO	000	BU	176 108 C83 CC796C	088	001	PF2			C-130	
2	CATC5		M35A2 2 1/2 T TRK	000	PM	265 096 C89 01860C	124	001	PF2		Y	C-130	
3	CATC5		TRL PU406 GEN SET	020	TR	170 093 C86 C0656C	095	002	PF2			C-130	
4	CATC5		TRK DRIVER	C000C000C	PX	CC0024C		003	PF2				R
6	CATC5		M884 1 1/4 T TRK	000	HT	210 085 104 C0850C	110	001	PF3			C-130	
7	CATC5		M35A2 2 1/2 T TRK	000	PM	265 096 C89 01860C	124	001	PFY		Y	C-130	
8	CATC5		TRL PU406 GEN SET	020	TR	170 093 C86 C0656C	095	002	PFY			C-130	
9	CATC5		TRK DRIVER	C000C000U	PX	C0024C		003	PFY				R
11	CATC5		M884 1 1/4 T TRK	000	HT	210 085 104 00850C	110	001	PF7			C-130	R
12	CATC5		PASSENGER	00000000U	PX	C0024C		001					A
22	CATC5		TRK CM EQUIP JEEP TOW	000	JP	131 064 C66 CC233C	050	001	PF1			FILL	
23	CATC5		TRK CM EQUIP JEEP TOW	000	JP	131 064 C66 CC233C	050	001	PF1		Y	FILL	
24	CATC6		GENERAL CARGO	000	BU	176 108 C83 C0796C	088	001	PF1			C-130	
25	CATC6		M35A2 2 1/2 T TRK	000	PM	265 096 C89 018C0C	124	002	PF2		Y	C-130	
26	CATC6		TRL PU406 GEN SET	020	TR	170 093 C86 C0656C	095	002	PF2			C-130	
27	CATC6		TRK DRIVER	C000C000U	PX	C0850C		003	PF2				R
29	CATC6		M884 1 1/4 T TRK	000	HT	210 085 104 C0850C	110	001	PF3			C-130	
30	CATC6		M884 1 1/4 T TRK	000	HT	210 085 104 00850C	110	001	PFR			C-130	
31	CATC6		M884 1 1/4 T TRK	000	HT	210 085 104 00850C	110	001	PFR			C-130	
32	CATC6		TRK CM EQUIP JEEP TOW	000	JP	131 064 C66 CC233C	050	002	PFR			FILL	
33	CATC6		M35A2 2 1/2 T TRK	000	PM	265 096 C89 01860C	124	001	PFY		Y	C-130	
34	CATC6		TRL PU406 GEN SET	020	TR	170 093 C86 C0656C	095	002	PFY			C-130	R
35	CATC6		TRK DRIVER	00000000U	PX	C0024C		003	PFY				A
37	CATC6		PASSENGER	00000C000	PX	C0024C		001					A
41	CATC6		TRK CM EQUIP JEEP TOW	000	JP	131 064 C66 CC233C	050	001	PF3			FILL	

AIR MOVEMENT PLANNING SYSTEM   U.S. ARMY LOGISTICS CENTER, FORT LEE, VIRGINIA   DATE 12/15/78   TIME 22:14:17   10

******   ********
MASTER-RECORDS = 00027
AIRCRAFT = 00004
AVAIL PASS = 00020
REJECTS = 00000
PRE REJECTS = 00000

SAMPLE RUN FOR EXECUTIVE SUMMARY

STATISTICS

TYPE A/C	NOT LOADED	LOADED
---C-5---	1	0
---C-141---	1	0
---C-130---	2	0

UTILIZATION	WEIGHT	AREA
---C-5---	0	0
---C-141---	0	0
---C-130---	0	0

CARGO	NOT LOADED	LOADED
---STANDARD	19	0
---OUTSIZE	0	0
PASSENGERS	28	0

SAMPLE RUN FOR EXECUTIVE SUMMARY

...AIRCRAFT DATA...DESTINATION...MISSION NUMBER...ALM ID...DEPT WT AFIL...CHALK NO...PACE-NO...
...CARRIER...SG TO.SAFE MUC...
... MAC #CATGS   C-141 KGMK BLK SHEEP 1   50.000   812   PPOB   1   1   00

C-141 AIRCRAFT LOAD PLAN DIAGRAM (NOT TO SCALE). ALL CARGO LOADED FACING AFT

FWD   AFT

515   524   654   724   794   863   933   1.003   1.072   1.142   1.212   1.281   1.351

```
                                                          #3                    #4          #5
                  #2                                      CG  962                CG 1.180    CG 1.367
     #1           CG  746                                 M35A2 2 1/2 T TRK      GENERAL CARGO  TRK GM E
     CG  555      TRL PL4CG GEN SET                       WT 18.600              WT 7.980     WT 2.330
     M884 1 1/4 T TRK   WT 6.560                          B# PRY                 B#          B# PR1
     WT 8.500    B# PRY
     B# PR3
```

CARGO MANIFEST (COMMENTS : SR = SHORING REQUIRED FF = FACING FORWARD SH = SPECIAL HANDLING)

ITEM-NO	UID	SCC	NOMENCLATURE	BUMP-NO	LENGTH	WIDTH	HEIGHT	WEIGHT	CG-STA	MOMENT	FWD-STA	AREA	COMMENTS
1	CATGS		M884 1 1/4 T TRK	PR3	210	85	104	8.500	555	4,717.500	455	123	- - -
2	CATGS		TRL PL4CG GEN SET	PRY	170	93	86	6.560	746	4,893.760	621	96	-SR- -
3	CATGS		M35A2 2 1/2 T TRK	PRY	265	96	89	18.600	962	17,893.200	821	176	- - -
4	CATGS		GENERAL CARGO		176	108	83	7.980	1.180	9,416.400	1.092	132	- - -SH-
5	CATGS		TRK GM EQUIP JEEP TCB	PR1	131	64	66	2.330	1.367	3.185.110	1.286	58	- - -

SAMPLE RUN FOR EXECUTIVE SUMMARY

AIRCRAFT	DATE	DESTINATION	MISSION NUMBER	ALW AREA	DEPART AFLD	CHALK NO.	PACE-NO.
CARRIER TU-4/C MOD							
MAC SORTIES C-141 KORK BLK SHEEP 1	50,000	812	NONE	1	2		

ITEM-NO	UID	NOMENCLATURE	BUMP-NO	LENGTH	WIDTH	HEIGHT	WEIGHT	CG-STA	MOMENT	FWD-STA	AREA	COMMENTS

| | SUBTOTALS | CARGO | 5 | | | | 43,970 | 912 | 40,105,970 | 585 | | |
| | SUBTOTALS | PAX | 4 | | | | 960 | | | | | |

| | TOTALS | | | | | | 44,930 | 912 | 40,105,970 | | | |

LOAD PLANNED BY----------------   AIR MOVEMENT PLANNING SYSTEM
DATE---------------------------   12/05/78

SIGNATURE OF LOADING AGENT------
DATE---------------------------

SIGNATURE OF UNLOADING AGENT----
DATE---------------------------

AIR MOVEMENT PLANNING SYSTEM   U.S. ARMY LOGISTICS CENTER, FORT LEE, VIRGINIA   DATE 12/05/78   TIME 22:14:54   PAGE 14

SAMPLE RUN FOR EXECUTIVE SUMMARY

*****AIRCRAFT DATA***** *****DESTINATION*****MISSION NUMBER*****ALW WT*****ALW AREA*****DEPART AFLD*****CHALK NO.*****PAGE-NO.*****
*** CARRIER=ASG TD=SA/C MDC   *   *   *   *   *   *
*** MAC SEATS : C-141   *   KGKK   * BLK SHEEP 1   * 50,000 *   *   812 *   KPOB   *   1   *   3   *

PASSENGER MANIFEST

LINE#	RANK	NAME	SSAN	WEIGHT	UNIT	BUMP A
1		TRK DRIVER		240	CATG5	PRY
2		TRK DRIVER		240	CATG5	PRY
3		PASSENGER		240	CATG5	
4		PASSENGER		240	CATG5	
		TOTALS		960		

LOAD PLANNED BY-------------:   AIR MOVEMENT PLANNING SYSTEM
DATE------------------------:   12/05/78

SIGNATURE OF LOADING AGENT---:
DATE------------------------:

SIGNATURE OF UNLOADING AGENT-:
DATE------------------------:

    I CERTIFY THAT A CHECK IF ALL PASSENGERS ON THIS FLIGHT AND A PHYSICAL SEARCH OF HAND CARRIED ITEMS WAS CONDUCTED
IMMEDIATELY PRIOR TO DEPARTURE FROM THE TERMINAL FACILITY AND THAT NO UNAUTHORIZED EXPLOSIVES OR WEAPONS WERE FOUND
AND ALL AUTHORIZED WEAPONS WERE CLEARED.

SIGNATURE OF AIRCRAFT TROOP COMMANDER-:
DATE------------------------:

******   SAMPLE RUN FOR EXECUTIVE SUMMARY   *********

******AIRCRAFT DATA****DESTINATION***MISSION NUMBER***ALM WT***AREA***DEP WT AFLC*****CHALK NO.****PAGE-NO.****
*** CARRIER ASG TO 5A/C MOD   **
*** MAC #CATGS * C-130 * KGKK * BLK SHEEP 2 * 30,000 * 512 * KPOB * 4 * 1 **

C-130 AIRCRAFT LOAD PLAN DIAGRAM (NOT TO SCALE). ALL CARGO LOADED FACING AFT

FWD   AFT

291   336   382   427   473   518   564   609   655   700   745   791   836

```
                    #1                      #2                      #3
                  CG 347                  CG 563                  CG 804
            TRL PU466 GEN SET       M35A2 2 1/2 T TRK        TRK GM EQUIP JEEP
                WT 6,560               WT 18,600                 WT 2,330
                B# PR2                  B# PR2                    B# PRX
```

CARGO MANIFEST (COMMENTS : SR = SHORING REQUIRED   FE = FACING FORWARD   SM = SPECIAL HANDLING)

ITEM-NO	UID	*** NOMENCLATURE	*** BUMP-NO	LENGTH	WIDTH	HEIGHT	WEIGHT	CG-STA	MOMENT	FWD-STA	AREA	COMMENTS
1	CATGS	TRL PU466 GEN SET	PR2	170	93	86	6,560	347	2,276,320	272	96	-SR-
2	CATGS	M35A2 2 1/2 T TRK	PR2	265	96	89	18,600	563	10,471,800	422	176	- - -
3	CATGS	TRK GM EQUIP JEEP TO6	PRX	131	64	66	2,330	804	1,873,320	723	58	- - -
		SUBTOTALS	CARGO	3			27,490	531	14,621,440	330		
		SUBTOTALS	PAX	2			480					
		TOTALS					27,970	531	14,621,440			

SAMPLE RUN FOR EXECUTIVE SUMMARY

*****AIRCRAFT DATA*****DESTINATION*****MISSION NUMBER*****ALW WT*****ALW AREA*****DEPART AFLD*****CHALK NO.*****PACE-NO.*****
*** CARRIER:56 T...A/C MDC   *   *   *   *   *   *   *   **
*** MDC SEATS * C-130   * KGKK   * BLK SHEEP 2 * 30.000 * 512   *   KPDB   *   4   *   2   **

LOAD PLANNED BY--------------
DATE--------------   12/05/78   AIR MOVEMENT PLANNING SYSTEM
SIGNATURE OF LOADING AGENT--------------
DATE--------------
SIGNATURE OF UNLOADING AGENT--------------
DATE--------------

SAMPLE RUN FOR EXECUTIVE SUMMARY

AIRCRAFT DATA	MISSION NUMBER	ALW MT	DEPART AFLC	CHALK NO.	PAGE NO.
CARRIER SQ TO, A/C MOD					
M&C SEATS C-13C KGMR BLK SHEEP 2 30,000 512 KPIB				4 4	3

PASSENGER MANIFEST

LINE#	MARK	NAME	SSAN	WEIGHT	UNIT	BUMP R
1		TRK DRIVER		240	CATGS	PK2
2		TRK DRIVER		240	CATGS	PK2
		TOTALS		480		

LOAD PLANNED BY-------------------   AIR MOVEMENT PLANNING SYSTEM
DATE------------------------------   12/05/78

SIGNATURE OF LOADING AGENT--------
DATE------------------------------

SIGNATURE OF UNLOADING AGENT------
DATE------------------------------

I CERTIFY THAT A CHECK OF ALL PASSENGERS ON THIS FLIGHT AND A PHYSICAL SEARCH OF HAND CARRIED ITEMS WAS CONDUCTED
IMMEDIATELY PRIOR TO DEPARTURE FROM THE TERMINAL FACILITY AND THAT NO UNAUTHORIZED EXPLOSIVES OR WEAPONS WERE FOUND
AND ALL AUTHORIZED WEAPONS WERE CLEARED.

SIGNATURE OF AIRCRAFT TROOP COMMANDER--
DATE------------------------------

SAMPLE RUN FOR EXECUTIVE SUMMARY

```
                    S T A T I S T I C S

          TYPE A/C---NOT LOADED---LOADED
            ---C-5---          0        1
            ---C-141---        0        1
            ---C-130---        1        1
          UTILIZATION----WEIGHT----AREA
            ---C-5---          0        0
            ---C-141---       89       72
            ---C-130---       93       64
          CARGO---NOT LOADED---LOADED
            -STANDARD-        11        8
            -OUTSIZE-          0        0
            -PASSENGERS-      26        6
```

NEXT UNIT CALLED C2
PASS-EXPLR 020

SAMPLE RUN FOR EXECUTIVE SUMMARY

```
****** AIRCRAFT DATA ********  *** ESTIMATIC *** MISSION NUMBER *** *** ALM AREA *** DEPART AFLD *** *** PACE-NO *** *** CHALK NO. ***
*** CARRIER  36 1U.SA/C MOD                                              *
*** MDL 4CATG6 * C-5       * KGKK        * WHT SHEEP 2  * 110.000 *    2,460.  KPDB      *       3     *     1       *
```

C-5   AIRCRAFT LOAD PLAN DIAGRAM (NOT TO SCALE). ALL CARGO LOADED FACING FWD

FWD   KNEELING CONFIGURATION =   AFT FWD LEVEL   AFT

531 648 779 91C 1,040 1,171 1,302 1,433 1,564 1,655 1,826 1,957 2,088

```
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+ # 1       + # 2       +    # 5        +  # 7          +  # 9          +  #10        +
+ CG  644   +           + CG 1,208    + CG 1,424     + CG 1,687    + CG 1,832    +
+ GENERAL C +           + M35A2 2 1/2 T TRK PU406 + TRL PU406 + M884 1 1/4 T + M884 1 1/4 T +
+ bT 7,980  +           +  WT 18,600  +  WT 6,560   +  WT 8,500   +  WT 8,500    +
+ BW        +           +  BW PR2     +  BW PR3     +  BW PR3     +  BW PRW      +
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
            + # 3       + # 4         + # 6          + # 8          +
            + CG  934   + CG 1,150    + CG 1,412    +              +
            + M35A2 2 1/2 T TK  TRL PU406 + M884 1 1/4 T + M884 1 1/4 T +
            +  WT 18,600 +  WT 6,560  +  WT 8,500   +  WT 8,500    +
            +  BW PRY   +  BW PRX    +  BW PRX     +  BW PRW      +
            +++++++++++++++++++++++++++++++++++++++++++++++++++++++
```

CARGO MANIFEST (COMMENTS: SR = SMOKING REQUIRED FF = FACING FORWARD   SH = SPECIAL HANDLING)

ITEM-NO	UID	NOMENCLATURE	BUMP-NO	LENGTH	WIDTH	HEIGHT	WEIGHT	CG-STA	MOMENT	FWD-STA	AREA	COMMENTS
1	CATG6	GENERAL CARGO		176	108	83	7,980	644	5,135,120	556	132	-SH-
2	CATG6	TRK GM EQUIP JEEP TON	PR1	131	64	66	2,330	925	2,155,250	875	58	
3	CATG6	M35A2 2 1/2 T TRK	PRY	265	96	89	18,600	934	17,372,400	810	176	
4	CATG6	TRL PU406 GEN SET	PRY	170	93	86	6,560	1,150	7,544,000	1,055	96	-SR-
5	CATG6	M35A2 2 1/2 T TRK	PR2	265	96	89	18,600	1,208	22,466,800	1,084	176	
6	CATG6	M884 1 1/4 T TRK	PRX	210	85	104	8,500	1,413	12,010,500	1,303	123	
7	CATG6	TRL PU406 GEN SET	PR2	170	93	86	6,560	1,424	9,341,440	1,329	96	-SR-

SAMPLE FOR FOR EXECUTIVE SUMMARY

*****AIRCRAFT DATA***** *****DESTINATION***** ***MISSION NUMBER***** *****ALW AREA***** *****DEPART AFLD***** *****CHALK NO.***** *****PACE-NO.*****
*** CARRIER/ORG TO.SAFC MOD *   *   ALW WT   * 110.000 *   * 2.600. * KPOB   *   *
*** MAC DEPTCC * C-5 * KGAR * WHT SHEEP 2   *   * 110.000 *   * 2.600. * KPOB   *   3   *   2   *

ITEM-NO	UM	*** NOMENCLATURE	*** BUMP-NO	LENGTH	WIDTH	HEIGHT	WEIGHT	CG-STA	MCPCT	END-STA	AREA	COMMENTS
8	CARGO	TRK LW EQUIP JEEP TOW	PAX	131	64	66	2.330	1.563	3.641.790	1.533	58	---
9	CARGO	M884 1 1/4 T TRK	PK3	210	85	104	8.500	1.667	14.735.500	1.577	123	---
10	CARGO	M884 1 1/4 T TRK	PKW	210	85	104	8.500	1.832	15.572.000	1.722	123	---

| SUBTOTALS | CARGO | 10 | | | 88.460 | 1.228 | 109.184.800 | | 1.161 | | |
| SUBTOTALS | PAX | 20 | | | 4.800 | 1.741 | 8.356.800 | | | | |

| TOTALS | | | | | 43.260 | 1.264 | 117.541.600 | | | | |

AIR MOVEMENT PLANNING SYSTEM

LOAD PLANNED BY-------------------
DATE--- 12/05/78

SIGNATURE OF LOADING AGENT-------------
DATE-----

SIGNATURE OF UNLOADING AGENT-------------
DATE-----

SAMPLE RUN FOR EXECUTIVE SUMMARY

```
AIRCRAFT CAT...DESTINATION...MISSION NUMBER...ALW WT...AREA...DEPART AFLD...CHALK NO...PAGE-NO...
CARRIER/PSG TO.../C PDE
M/C CATG6    C-5    KGK    WHT SHEEP 2    110.000    2.660    KPDB    3    3
```

PASSENGER MANIFEST

LINE#	RANK	NAME	SSAN	WEIGHT	UNIT	BUMP#
1		TRK DRIVER		240	CATG6	PK2
2		TRK DRIVER		240	CATG6	PK2
3		PASSENGER		240	CATG5	
5		PASSENGER		240	CATG5	
6		PASSENGER		240	CATG5	
7		PASSENGER		240	CATG5	
8		PASSENGER		240	CATG5	
9		PASSENGER		240	CATG5	
10		PASSENGER		240	CATG5	
11		PASSENGER		240	CATG6	
12		PASSENGER		240	CATG6	
13		PASSENGER		240	CATG6	
14		PASSENGER		240	CATG6	
15		PASSENGER		240	CATG6	
16		PASSENGER		240	CATG6	
17		PASSENGER		240	CATG6	
18		PASSENGER		240	CATG6	
19		PASSENGER		240	CATG6	
20		PASSENGER		240	CATG6	
		TOTALS		4800		

```
LOAD PLANNED BY----------------    AIR MOVEMENT PLANNING SYSTEM
DATE----------------------------    12/05/78

SIGNATURE OF LOADING AGENT-------
DATE----------------------------

SIGNATURE OF UNLOADING AGENT-----
DATE----------------------------
```

I CERTIFY THAT A CHECK OF ALL PASSENGERS ON THIS FLIGHT AND A PHYSICAL SEARCH OF HAND CARRIED ITEMS WAS CONDUCTED
IMMEDIATELY PRIOR TO DEPARTURE FROM THE TERMINAL FACILITY AND THAT NO UNAUTHORIZED EXPLOSIVES OR WEAPONS WERE FOUND
AND ALL AUTHORIZED WEAPONS WERE CLEARED.

```
SIGNATURE OF AIRCRAFT TROOP COMMANDER-
DATE---------------------------------
```

THIS AIRCRAFT NOT USED C0C0C4PACC-130CATG6   WHT SHEEP 1 KPLBKGKK03000000000000CC00U00C0002 0U02
THIS AIRCRAFT NOT USED C0C0C4PACC-130CATG6   WHT SHEEP 1 KPUBKGKK03000000000000CC0000 0U02
AIRCRAFT FILE RESTARTED AT NO-AC = 000C01
THIS AIRCRAFT NOT USED C0C0C4PACC-130CATG6   WHT SHEEP 1 KPLBKGKK03000000000000CC0000 0002
AIRCRAFT FILE RESTARTED AT NO-AC = 000C01
THIS AIRCRAFT NOT USED C0C0C4PACC-130CATG6   WHT SHEEP 1 KPLBKGKK03000000000000CC0U00 0002
AIRCRAFT FILE RESTARTED AT NO-AC = 000C01
```

SAMPLE RUN FOR EXECUTIVE SUMMARY

S T A T I S T I C S

| TYPE A/C | NOT LOADED | LOADED |
|---|---|---|
| ---C-5--- | 0 | 1 |
| ---C-141-- | 0 | 1 |
| ---C-130-- | 1 | 1 |

| UTILIZATION | WEIGHT | AREA |
|---|---|---|
| ---C-5--- | 84 | 43 |
| ---C-141-- | 89 | 72 |
| ---C-130-- | 93 | 64 |

| CARGO | NOT LOADED | LOADED |
|---|---|---|
| -STANDARD- | 1 | 18 |
| --OUTSIZE- | 0 | 0 |
| PASSENGERS | 2 | 26 |

\*\*\*\*\*\*\*                                                                                                          \*\*\*\*\*\*\*

\*\*\* CARGO-PASSENGERS NOT LOADED \*\*\*

| | | | |
|---|---|---|---|
| 1. | 00105 | M&B4 1 1/4 T TRK OCMOOOOOPRZ | 0S21006510400850O110 |
| 35. | 00106 | TRK DRIVER    OCMOOOOOPRY | 02    000240 |
| 36 | 00106 | TRK DRIVER    OCMOOOOOPRY | 02    000240 |

SAMPLE RUN FOR EXECUTIVE SUMMARY

*** AIRCRAFT NOT USED ***

MACC-130CATG6  WHT SHEEP 1 KFMKGRK030000000

SAMPLE RUN FOR EXECUTIVE SUMMARY

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**13. ABSTRACT**

The Air Movement Planning System (AMPS) is a computerized method for quickly and effectively planning cargo loads for C-130, C-141, and C-5 aircraft.  It is primarily intended for use in Army unit moves, but its inherent flexibility makes it adaptable for movement of most types of cargo under various conditions.

AMPS provides the user with an air movement mission an automated method of preparing effective load plans for USAF aircraft that will provide a timely response within the dynamic environment of joint airlift operations.  The system is fast, accurate, makes efficient use of aircraft, incorporates commander's priorities, maintains unit integrity, links trailers and/or crews with their respective vehicles, and links units with specific aircraft.

**DD** FORM 1 NOV 65 **1473** REPLACES DD FORM 1473, 1 JAN 64, WHICH IS OBSOLETE FOR ARMY USE.

| 14. KEY WORDS | LINK A | | LINK B | | LINK C | |
|---|---|---|---|---|---|---|
| | ROLE | WT | ROLE | WT | ROLE | WT |
| Air Movement Planning System | | | | | | |
| Model | | | | | | |
| Simulation | | | | | | |
| Transportation | | | | | | |
| Aircraft | | | | | | |
| Airlift | | | | | | |
| AMPS | | | | | | |
| C-130 | | | | | | |
| C-141 | | | | | | |
| C-5 | | | | | | |
| C-5A | | | | | | |
| Cargo Loads | | | | | | |
| Air Movement of Helicopters | | | | | | |
| Air Movement Planning, Automated | | | | | | |
| Planning System | | | | | | |
| Helicopters | | | | | | |
| Helicopter Movement | | | | | | |